

BLACK & VEATCH

South Florida Water Management District
EAA Reservoir A-1 Basis of Design Report

January 2006

APPENDIX 5-20

WAVE RUN-UP CASE DESCRIPTIONS

Case Definitions

Derivation of Wind Speeds and Water Depths for Cases 1 - 4
Methods follows those presented in DCM-2

Wind Speed Adjustments

Rainfall / Water Level

Case 1:

50 yr, 3 sec U	125	Figure 2-1	Normal Pool	12 ft
100 yr 3 sec U	133.75	Table 2-2	PMP	4.5 ft
100 yr 1-hr U	88.57616	Eq. 1		
Overwater U	106.2914	USACE, 2003 pg. II2-36	Water Depth	16.5 ft
Minimum duration (min)	96.1	Eq. 4		
Final U	103.0	Eq. 2		

Case 2:

Cat 5 1-min U	156	Given	Normal Pool	12 ft
Cat 5, 1-hr U	125	Table 2-3	100yr storm rainfall	17 in Figure 2-2
Minimum duration (min)	91.0	Eq. 4		
Final U	121.6	Eq. 2	Water Depth	13.4

Case 3:

Overwater 1-min U	200	Given	Normal Pool	12 ft
Overwater, 1-hr U	161.2903	Eq. 1		
Minimum duration (min)	83.4	Eq. 4		
Final U	157.8	Eq. 2		

Case 4:

From DCM-2

Hurricane Easy, 3-sec gust	125	Given	Normal Pool	12 ft
	82.78146	Eq. 1	Hurr. Easy Rainfall	38.7 in
Overwater U	99.33775	USACE, 2003 pg. II2-36	Water Depth	15.2 ft
Minimum duration (min)	98.4	Eq. 4		
Final U	96.1	Eq. 2		

Note: Case 4 has both a lower wind speed and lower water level than Case 1 and will therefore not be run.